

# Research Summary

## Consultant Support for IC-PMTPS Projects

Due to the success of the MoDOT 2017 Intelligent Compaction (IC) and Infrared Scanning (IR) projects that demonstrated Quality Control (QC) improvements in 13 field projects, MoDOT established a plan that included further IC and Paver-mounted Thermal Profile Systems (PMTPS) projects in 2018-2019 with a goal of full implementation in 2021.

To ensure the continued success of the MoDOT IC-PMTPS projects in 2018 and beyond, MoDOT procured Consulting Support for the selected IC-PMTPS projects in 2018-2019 (i.e., Phase II). This research details the results from the 2019 IC-PMTPS Projects and an average of overall results from 2017 to 2019.

*“There was a significant improvement in IC and PMTPS data management and analysis efforts...”*

There was a significant improvement in IC and PMTPS data management and analysis efforts by contractors from 2017 to 2019. The thermal segregation continually improved from 2017 to 2019, according to AASHTO PP80 definitions of thermal segregation. There was also a significant improvement in IC coverage from 2018 to 2019. 2018 had the lowest IC coverage. This is attributed to a contractor learning curve due to limited on-site support in 2018. By 2019

contractors had significantly fewer challenges with data acquisition and analysis.



Figure 1 HAMM HCQ Intelligent Compaction System  
On-site (HWY 61/24 Project)

MoDOT is moving forward with the implementation of IC and PMTPS technologies. Based on the 2017-2019 projects and lessons learned, recommendations for future implementation include continual training for contractor and MoDOT personnel, development and implementation of a IC technician certification program, development and implementation of QA procedures to validate contractor data, investigation and piloting of additional intelligent construction technologies to further develop MoDOT's intelligent



construction program, investigating and piloting equipment to collect boundaries for IC coverage at traffic speed, continual participation in the Transportation Pooled Fund Study, and continual and future performance tracking of IC and PMTPS projects.

### ***Project Information***

**PROJECT NAME:** TR201902—IC-IR  
Consultant Contract-Phase 3

**PROJECT START/END DATE:** July 1,  
2018-January 31, 2020

**PROJECT COST:** \$199,852

**LEAD CONTRACTOR:** Transtec Group,  
Inc.

**PRINCIPAL INVESTIGATOR:** Dr. George  
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**REPORT NAME:** Consultant Support for  
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